

## REMARKS

In the Official Action dated September, 22, 2005, the Examiner rejected pending Claims 1-23 under 35 U.S.C. § 103(a) as being unpatentable over Loftus (U.S. Pat. No. 6,007,325) in view of Benson (U.S. Pat. No. 6,672,858). The Applicant respectfully traverses this rejection and requests reconsideration thereof.

### Summary of the Pending Claims

Prior to addressing the substance of the prior art rejection, the Applicant believes a brief summary of the pending amended claims and the current invention will aid in the understanding of the following arguments over the cited art.

Amended Claims 1 and 14 are directed to a compact gas burner wherein the burner tile 28 has discrete sections 36, 38. The sections are defined by baffles 40 attached to the exterior of wall 34 of burner tile 28. As described by the fourth paragraph of Claims 1 and 14, positioned outside of every section 36, 38 of the burner tile is a fuel gas nozzle 54. The fuel gas nozzles positioned adjacent to sections 36 of the burner tile wall provide for discharge of both primary fuel gas and secondary fuel gas. These fuel gas nozzles are positioned in a manner such that the discharge of primary fuel gas draws flue gases into fuel gas passageway 42 located within each section 36 while the discharge of secondary fuel gas blends with flue gases in the furnace space (see page 7, lines 14-17 and lines 23-26 of the specification). The fuel gas nozzles 54 positioned adjacent to the remaining sections 38 discharge secondary fuel gas which also blends with flue gases in the furnace space. The indicated amendments to paragraph 4 of claims 1 and 14 are supported by the specification at page 7, lines 18-26.

Claim 1 further describes the sections of the burner tile wall. Specifically, as noted in the third paragraph of Claim 1, every other section slants towards the air flow opening at a first angle or second angle. Those sections slanted at a first angle have a primary fuel gas passageway. As noted above, the fuel gas nozzles located to the exterior of the sections at a first angle are positioned in a manner suitable for discharging primary fuel gas into the primary fuel gas

passageway such that flue gases are also drawn into the passageway. Support for the amendment to Claim 1 is found in the specification at page 5, lines 23-27.

Claim 14 differs in scope from Claim 1 by requiring those sections provided with a primary fuel gas passageway to have a height equal to or less than those sections lacking a primary fuel gas passageway.

As noted at page 8, lines 1-16, the distinct sections 36 and 38 of the burner tile divide the secondary fuel gas and flue gases into a plurality of separate streams. When combined with the primary fuel gas-flue gases-air mixture, the secondary fuel gas and flue gases produce a plurality of U-shaped or folded flames. The resulting combustion environment yields lower NO<sub>x</sub> production.

#### §103 Rejection of the Pending Claims

Turning now to the rejection of the pending claims, the Examiner has asserted that the combination of the Loftus et al. and Benson et al. renders the pending claims obvious. The Examiner has acknowledged that Loftus et al. lack the teaching of gas nozzles outside of the burner tile. To provide for the deficiencies of Loftus et al., the Examiner cited Benson et al., noting that Benson discloses a burner with a circular burner tile divided into sections. The burner tile includes primary fuel gas passageways 14 and a plurality of fuel gas nozzles 22 and 23 positioned outside of the burner tile 13.

The Applicant respectfully submits that the Benson et al. disclosure does not support a *prima facia* obviousness rejection of the pending claims. Specifically, the combination of Benson et al. and Loftus et al. would not provide one skilled in the art with the burner described by the pending claims.

As discussed above, the burner of pending claims 1 and 14 is provided with a fuel gas nozzle adjacent to the exterior of every section of the burner tile. Further, alternating sections of the burner tile are provided with primary fuel gas passageways. The fuel gas nozzles adjacent to these sections of the burner tile are positioned and designed to discharge primary fuel gas into

the primary fuel gas passageway and secondary fuel gas over the surface of the section wall. Further, those sections of the burner tile provided with primary fuel gas passageways and primary fuel gas nozzles have a different configuration from those sections provided only with secondary fuel gas nozzles.

In contrast to the pending claims, Benson et al. do not provide a burner tile with alternating sections wherein every other section is provided with a primary fuel gas passageway. Further, as depicted by Benson et al. in Fig. 2, each section of the burner tile is identical. Specifically, each section is defined by an indentation 15 which includes a recirculation port 14. A primary fuel tip directs fuel into recirculation port 14 while separate secondary fuel tips 23 are directed upwards within indentation 15.

Clearly, as described at col. 4, lines 56-64, every section of Benson et al. is identical and includes both primary and secondary fuel supplies provided by means of separate fuel tips. As such, Benson et al. does not teach or suggest a burner wherein alternating sections of the burner tile are provided with a fuel nozzle have separate ports for delivering both primary and secondary fuel gas to the burner. Further, Benson et al. do not teach or suggest providing primary fuel gas only to every other section of the burner tile. Finally, neither the drawings nor the written description of Benson et al. disclose a burner tile wherein alternating sections of the burner tile are inclined at differing angles. Rather, in the burner provided by Benson et al. each section 15 is identical to all other sections 15. In view of the foregoing differences between the cited art and the pending claims, the Applicant respectfully requests reconsideration and withdrawal of the rejection over the cited art.

#### Lack of a Prima Facia Basis for the §103 Rejection

In addition to the foregoing arguments over the cited art, the Applicant further submits that the Examiner failed to establish a *prima facia* basis for rejecting the pending claims under §103. “The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and

would have a reasonable likelihood of success, viewed in the light of the prior art.” *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988) (citations omitted). In other words, “both the suggestion and the expectation of success must be founded in the prior art.” *Id.* Finally, the Examiner must explain why the modification would have been desirable to one skilled in the art. *In re Fritch*, 972 F.2d 1260, 1265-66, 23 U.S.P.Q.2d 1780, 1783-84 (Fed. Cir. 1992). In this instance, the Examiner has explained the desirability by quoting the desired result of the Benson et al. disclosure. However, reliance upon the desired result described by Benson et al. reflects hindsight reconstruction.

The Applicant respectfully submits that the Examiner has not fulfilled the obligation of considering the current invention as a whole as required by *Ruiz v. A.B. Chance Co.*, 69 U.S.P.Q.2d 1686, 1690 (Fed. Cir. 2004). As noted by the *Ruiz* Court, “the ‘as a whole’ instruction prevents evaluation of the invention part by part. *Id.* Thus, breaking the current invention into individual components and finding references which appear to equal those components does not support a §103 rejection. Rather, as noted by the *Ruiz* Court, the proper showing is not the desired result of the invention but a showing that one skilled in the art “confronted by the same problems … would select the various elements from the prior art and combine them in the claimed manner.” *Id.*

#### Amendment to the Specification

Finally, the Applicant has amended the specification by replacing the paragraph at page 9, lines 13-16. The amendment merely corrects a typographical error. The identifier for the nozzles found on the exterior of the burner tile used throughout the specification is “54”. However, in this one instance, these nozzles are referred to as “44”. The identifier “44” clearly refers only to the central nozzle 44 found within the burner tile. Therefore, the Applicant respectfully submits that no new matter is added by this amendment and requests entry thereof.

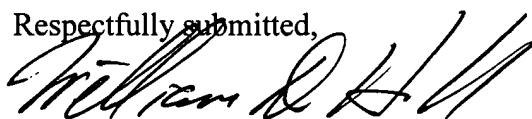
## CONCLUSION

In summary, the Applicant has demonstrated that the Benson et al. disclosure neither teaches nor suggests a burner tile section/nozzle arrangement as described by the pending claims. Further, the Applicant respectfully submits that the combination of Luftus et al. with Benson et al. resulted from improper hindsight reconstruction. Therefore, in view of the foregoing amendments to the claims and arguments over the cited art, the Applicants respectfully request that the Examiner reconsider and withdraw the rejection of the pending claims.

A formal Notice of Allowance of Claims 1-23 is earnestly solicited. Should the Examiner care to discuss any aspect of the foregoing response in greater detail, the undersigned attorney would welcome a telephone call.

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Date

Respectfully submitted,



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